

Application No.: 10/630296
Docket No.: EL0475USCIP

Page 2

AMENDMENT TO CLAIMS

1. (Currently amended) A magnetic thick film composition comprising particles of permanent magnetic materials comprising Nd-Fe-B system materials, having isotropic characteristics, wherein said permanent magnetic materials ~~have a D50 particle size distribution in the range of 36.4 to 63.2 microns, are~~ dispersed in organic medium wherein the medium comprises a polymer selected from polyurethane, phenoxy and mixtures thereof, and organic solvent.
2. (Previously submitted) A magnetic thick film composition comprising particles of permanent magnetic materials comprising Nd-Fe-B system materials, having isotropic characteristics, dispersed in organic medium wherein the medium comprises a polymer selected from polyurethane, phenoxy and mixtures thereof, and organic solvent, wherein said permanent magnetic materials have a D50 particle size distribution in the range of 36.4 to 63.2 microns and wherein said particles of permanent magnetic materials further comprise other rare earth metals that contribute to the magnetic properties selected from Pr, Sm, Eu, Gd, and mixtures thereof.
3. (Previously submitted) The composition as in Claim 1 wherein said particles of permanent magnetic materials further comprise other transition metals selected from Cr, Ni, Co, Mn, and mixtures thereof.
4. (Previously submitted) The composition of Claim 1 or Claim 2 wherein the magnetic particles are found in the composition in the range of 50-91% by weight based on total composition.
5. (Previously submitted) The composition of Claim 1 or Claim 2 wherein the organic medium is found in the composition in the range of 9-50% by weight based on total composition.
6. (Previously submitted) The composition Claim 1 or Claim 2 which is of paste consistency suitable for screen-printing.
7. (Previously submitted) The composition of Claim 1 or Claim 2 disposed on a substrate wherein the composition is processed to at least substantially remove the organic solvent.

Application No.: 10/630296
Docket No.: EL0475USCIP

Page 3

8. (Original) The composition of Claim 6 wherein the composition is applied to a substrate by a disposing means.
9. (Original) The composition of Claim 8 wherein the disposing means is selected from screen-printing, spraying, doctor blading, brushing and dipping.
10. (Previously submitted) A magnetic thick film composition having isotropic characteristics, comprising particles of permanent magnetic materials comprising Nd-Fe-B system materials, dispersed in organic medium wherein the medium comprises a polymer selected from polyurethane, phenoxy and mixtures thereof, and organic solvent, wherein said particles of permanent magnetic materials further comprise other rare earth metals that contribute to the magnetic properties selected from the group consisting of Pr, Sm, Eu, Gd, and mixtures thereof and other transition metals selected from the group consisting of Cr, Ni, Co, Mn, and mixtures thereof.
11. (Previously Submitted) An isotropic magnetic thick film composition comprising particles of permanent magnetic materials comprising Nd-Fe-B powder, dispersed in organic medium, and organic solvent and wherein said powder is selected from the group consisting of atomized powders and dry-milled powders and wherein the medium comprises a polymer selected from the group consisting of polyurethane, phenoxy and mixtures thereof.
12. (Previously Submitted) The composition of Claim 1 wherein said particles of permanent magnetic materials further comprise rare earth and transition metals selected from the group consisting of Pr, Sm, Eu, Gd, and mixtures thereof and from Cr, Ni, Co, Mn, and mixtures thereof.
13. (Previously Submitted) The composition of Claim 1, which is of paste consistency suitable for screen-printing.
14. (Withdrawn) A magnetically isotropic thick film formed from a magnetic thick film composition comprising particles of permanent magnetic materials comprising Nd-Fe-B system materials, dispersed in organic medium wherein the medium comprises a polymer selected from polyurethane, phenoxy and mixtures thereof, and organic solvent.

Application No.: 10/630296
Docket No.: EL0475USCIP

Page 4

15. (Withdrawn) The isotropic thick film of claim 14 wherein said isotropic thick film as printed is isotropic in nature such that the direction of a subsequently applied magnetic field can be done in any direction versus the shape and thickness of said isotropic thick film.
16. (Withdrawn) The isotropic thick film of claim 14 wherein said particles of permanent magnetic materials of said magnetic thick film composition further comprise other rare earth metals that contribute to the magnetic properties selected from Pr, Sm, Eu, Gd, and mixtures thereof.
17. (Withdrawn) The isotropic thick film of claim 14 wherein said particles of permanent magnetic materials further comprise other transition metals selected from Cr, Ni, Co, Mn, and mixtures thereof.
18. (Withdrawn) A method of forming an isotropic thick film comprising the steps of:
 - providing a magnetic thick film composition comprising particles of permanent magnetic materials comprising Nd-Fe-B system materials, dispersed in organic medium wherein the medium comprises a polymer selected from polyurethane, phenoxy and mixtures thereof, and organic solvent;
 - providing a substrate;
 - applying said magnetic thick film composition on said substrate;
 - process said magnetic thick film composition on said substrate to substantially volatilize said organic solvent, thus forming a thick film having a shape and thickness; and
 - applying a magnetic field such that the direction of said magnetic field can be done in any direction versus the shape and thickness of said thick film.
19. (Withdrawn) The method of claim 18 wherein said particles of permanent magnetic materials are formed by an atomization or dry-milling process.
20. (Withdrawn) The film of Claim 14 wherein the magnetic particles are found in the composition in the range of 50-91% by weight based on total composition.
21. (Withdrawn) The film of Claim 14 wherein the organic medium is found in the composition in the range of 9-50% by weight based on total composition.
22. (Withdrawn) The film of Claim 14 disposed on a substrate wherein the composition is processed to at least substantially remove the organic solvent.

Application No.: 10/630296
Docket No.: EL0475USCIP

Page 5

23. (Previously submitted) The composition of claim 1 wherein said polymer is a linear polymer.
24. (Previously submitted) The composition of claim 1 wherein said polymer has an average molecular weight in the range of 40,000 to 60,000.
25. (Currently amended) The composition of claim 1 wherein said composition has a viscosity in the range of ~~15~~ 5 to 30 PaS.
26. (Previously submitted) The composition of Claim 1 wherein said composition, as printed, is isotropic in nature such that the direction of a subsequently applied magnetic field can be done in any direction versus the shape and thickness of a resulting film.
27. (Withdrawn) The composition of claim 1 wherein said composition is printed in subsequent prints and wherein said prints are made of different patterns such that a three dimensional construct is made.